



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference WO 21.1100	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/50606	International filing date (day/month/year) 02.09.2003	Priority date (day/month/year) 03.09.2002
International Patent Classification (IPC) or both national classification and IPC E21B47/10		
Applicant SERVICES PETROLIERS SCHLUMBERGER		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:
- I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 29.03.2004	Date of completion of this report 04.08.2004
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Tompouloglou, C Telephone No. +49 89 2399-2077 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/50606**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-15 as originally filed

Claims, Numbers

1-12 as originally filed

Drawings, Sheets

1/7-7/7 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/50606**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2,3,5,7-9,11,12
	No: Claims	1,4,6
Inventive step (IS)	Yes: Claims	10
	No: Claims	1-9,11,12
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP03/50606

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1: US-A-5586027

D2: US-A-5561245

D3: US-A-3909603

D4: EP-A-362011

D5: US-A-5633470

D6: EP-A-519809

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1,4,6 is not new in the sense of Article 33(2) PCT.

Document D1 discloses in addition to the features of the preamble (see abstract) also the characterising method steps of claim 1:

- corrections: see "conversion" on col. 7, l. 11 in conjunction with fig. 5
- selection of a flow model: see equation (3)
- interpolation: see col. 7, l. 58-65
- calculation: see equation (5).

Similarly D1 discloses the correction step (see equation (1) according to claim 4.

The additional features of claim 6 belong to the inherent disclosure of D1 (see implicit disclosure in Guidelines PCT GL 3 IV 7.2)

The present application does not meet the criteria of Article 33(1) PCT also for lack of inventive step. Indeed, the subject-matter of claims 2,3,5,7-9,11,12 is new but does not involve an inventive step in the sense of Article 33(3) PCT.

The additional features of claims:

2, 3, 5, 12 / 11

have already been employed for the same purpose in a similar method, see document D2, col. 6, l. 40-54 / D3: US-A-3909603: abstract, fig. 7 respectively.

It would be obvious to the person skilled in the art, namely when the same result is to be achieved, to apply these features with corresponding effect to a method according to document D1, thereby arriving at a method according to claims 2,3,5,11,12.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP03/50606

In claims 7-9 slight constructional measures or changes in the method of D1 are defined which comes within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen. Consequently, the subject-matter of claims 7-9 also lacks an inventive step.

Under reserve of the deficiency pointed out below, the combination of the features of dependent claim 10 is neither known from, nor rendered obvious by, the available prior art. The reason for that is that the chronological order of the steps involved and in combination with their repetition before interpolation until the measurements fit the selected model before the interpolation lead to a precise iterative method of refined calculation of the relative flow rates.

Further Requirements

- Art. 6 PCT

Support by the description: The determination of the "relative bearing of the well" in claim 8 is not supported by the description.

Clarity: Claim 10 refers back to the "preceding claims" without specifying the precise referral to claims separately or in combination considered. Indeed the literal wording refers at least to steps disclosed in combination in claims 1-5.

- Formal Requirements

Following points were not observed:

Rule 6.4 (a) PCT with regard to claims 5-12 ("multiple dependent claims")

Rule 6.3 (b) PCT: Two part form of the independent claim with regard to D1.

Rule 5.1 (a) ii) PCT: reference to documents D1-D5 and their disclosure in the description.